

EPA WORK ASSIGNMENT NO: 076-2JZZ
EPA CONTRACT NO: 68-W8-0110
FOSTER WHEELER ENVIRONMENTAL CORPORATION
ARCS II PROGRAM

FINAL
SITE INSPECTION PRIORITIZATION (SIP)
LETTER REPORT
IBM COUNTRY CLUB
DUTCHESS COUNTY, NEW YORK
CERCLIS NO.: NYD982531907

APRIL 1995

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**IBM COUNTRY CLUB
SOUTH ROAD
TOWN OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK
CERCLIS NO. NYD982531907**

Documents Reviewed

The primary information sources reviewed as part of the Site Inspection Prioritization (SIP) include documents from the United States Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), the Dutchess County Health Department, the United States Geological Survey (USGS), and International Business Machines' (IBM) own site documentation. Specific documents reviewed include a Preliminary Assessment (PA) Report prepared by NUS Corporation, Region II dated January 31, 1989; Hydrogeochemical Assessment completed by Lawler, Matusky & Skelly Engineers for IBM in March 1988; a Final Resampling Report prepared by Groundwater Sciences Corporation for IBM and NYSDEC in August 1990; and correspondence between IBM and the NYSDEC.

Site Description and History

The IBM Country Club is located on South Road, Route 9 in the Town of Poughkeepsie, Dutchess County, New York. The IBM Country Club site is roughly 370 acres in size and lies 1.25 miles east of the Hudson River in an industrial/residential section of Poughkeepsie, New York, as shown on Figure 1. IBM has owned and operated the site as a country club since the 1940s. This facility, roughly 0.8 mile southeast of IBM's main facility, is comprised of an 18-hole golf course, tennis and swimming facilities, a clubhouse, and maintenance facilities. Between 1983 and 1985, the IBM Country Club underwent a major renovation which included the relocation of a maintenance building, B259, to the southwestern portion of the property (Ref. 4, p. 2 of 11).

B259 was used primarily to maintain golf carts and groundskeeping machinery. During a 1987 inspection by IBM, a floor drain was discovered which led to an oil/water separation tank and dry well. Solvents were used to clean the motorized equipment used to maintain the grounds. Degreasers were applied to the equipment, allowed to soak, and then rinsed off with water. The waste then exited the oil/water separator through a pipe and entered a dry well next to the building (Figure 2). IBM excavated the area surrounding the dry well and oil/water separator in 1988. During the excavation, soils and approximately 250 gallons of water were removed and sent to a RCRA-permitted facility (Ref. 4, p. 6 of 11; Ref. 9, pp. 1 through 6 of 6). Prior to backfilling, the oil/water separator was rinsed and the discharge pipe was plugged. The dry well was dismantled and standing water was sampled and sent to the laboratory for analysis. Analysis of the water samples collected from the well revealed the presence of 1,1,1-trichloroethane, acetone, tetrachloroethylene, toluene, and 1,1-dichloroethane (Ref. 4, p. 7 of 11).

A sink connected to an underground septic tank also was discovered in the maintenance building. The septic tank was found to discharge directly into a leach field approximately 2,900 square feet in area. The septic tank was sampled and concentrations of 1,1,1-trichloroethane and 1,1-dichloroethane were found (Ref. 4, p. 9 of 11). The contents of the septic tank were pumped and

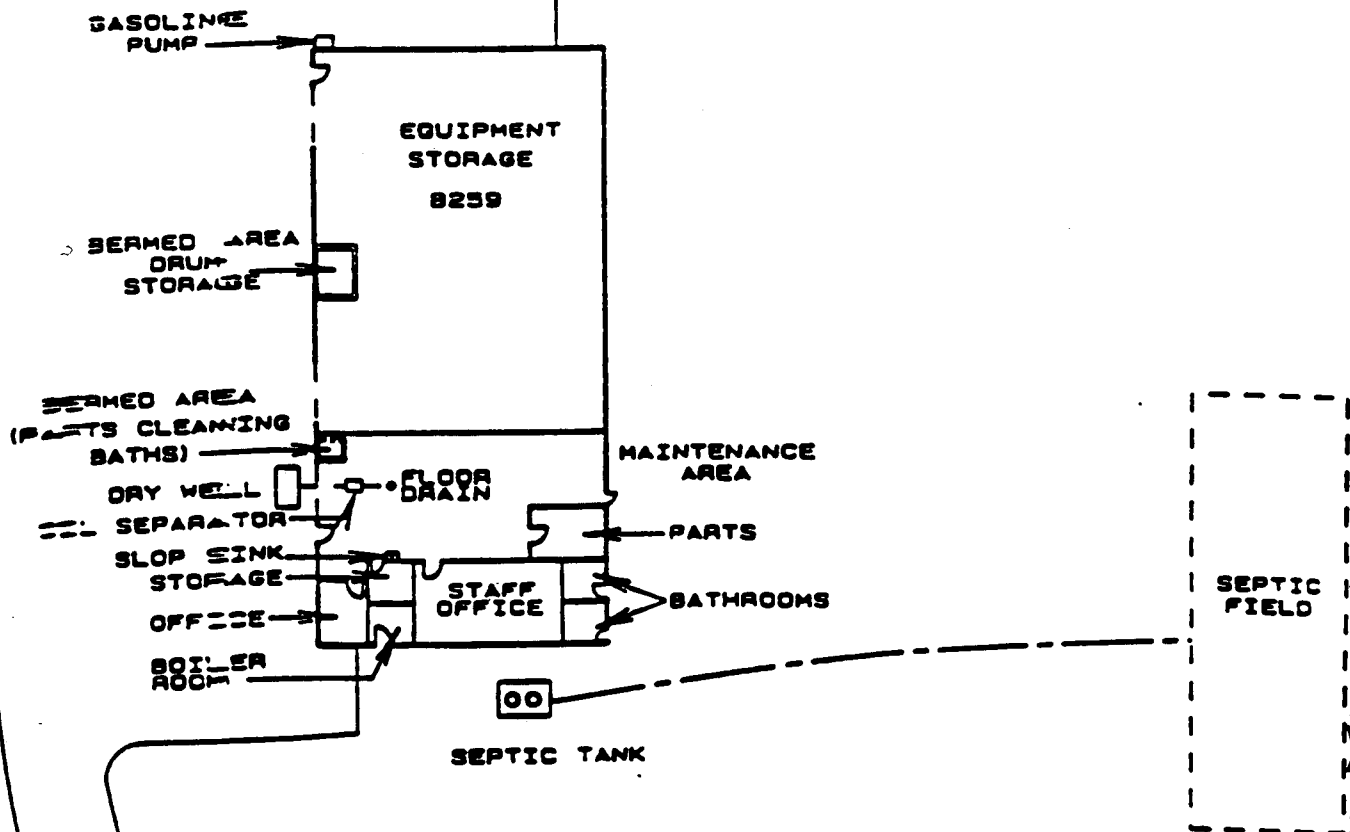


FIGURE 2
SITE B259 MAINTENANCE BLDG.
IBM COUNTRY CLUB
POUGHKEEPSIE, NY

Prepared by:
Ebasco Services

Date: March, 1995

Not to Scale



the solid and liquid fractions disposed of at RCRA approved facilities. The septic tank was excavated and the discharge line to the leach field was plugged. The septic tank was replaced and the discarded tank sent to a secure landfill (Ref. 4, p. 9 of 11).

According to IBM, equipment maintenance activities in B259 were discontinued following the detection of solvents in the dry well. No further maintenance activities utilizing solvents will be performed at the facility. The sink in the maintenance area was also removed and only the bathroom facilities drain to the septic tank.

Federal/State Records

Monitoring wells were installed in 1988 and sampling of the groundwater began as part of a "Hydrogeochemical Assessment of B259" by IBM dated March 1988 (Ref. 4, p. 1 through 11 of 11). Groundwater samples were collected and analyzed from the monitoring wells around the former dry well location. The monitoring well samples revealed the presence of many of the compounds found in the dry well water samples. Groundwater samples also were collected from the area around the leach field, which was potentially affected by a release from the septic tank. Low concentrations of trichloroethane were detected in these samples.

Higher levels of groundwater contamination were detected in wells located closest to the dry well and septic tank areas (Ref. 6, p. 2 of 4). IBM removed the sources of contamination in January 1988 to eliminate the development of a plume. The removal resulted in the excavation and disposal of the dry well, the septic tank, and the removal of 34,862 pounds of wastes to GSX Services, South Carolina and Rollins Environmental, New Jersey (Ref. 9, p. 1 through 6 of 6). After the removal, periodic sampling and analysis of groundwater samples indicated the low levels of solvents in the groundwater are steadily decreasing (Ref 6 p. 2 of 4). This analysis further resulted in the conclusion that, although some compounds were observed in the groundwater around the dry well, a plume has not developed due to the removal of the source.

On December 21, 1989, an Order of Consent was issued by NYSDEC for the resampling and analysis of ten monitoring wells for ten specific organic chemicals detected earlier (Ref. 5, p. 8 of 17). Groundwater Services Corporation conducted the resampling in late May to early June 1990. The wells were sampled and analyzed for the following: carbon tetrachloride, 1,1-dichloroethane, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, toluene, benzene, total xylenes, and acetone. Laboratory results revealed contaminant levels have decreased below drinking water standards. NYSDEC considered all remedial actions and monitoring actions complete and required no further action (Ref. 6, p. 2 of 4).

Conclusions

Based on the review of the existing information from the USEPA, NYSDEC, and the Dutchess County Health Department, the following conclusions can be drawn regarding the IBM Country Club site:

- The Preliminary Assessment conducted by NUS showed limited evidence of hazardous wastes on site.

- The sources of contamination have been removed. The septic tank was removed and replaced, and the dry well and oil/water separator were excavated and also replaced in January 1988.
- Resampling of groundwater revealed contamination levels are below drinking water standards.
- IBM has discontinued the practices which resulted in the initial release.
- NYSDEC has reclassified the site, indicating the site has been sufficiently remediated and no further action is required.
- There is no documented evidence of a source remaining at the site; therefore the site cannot be scored using the HRS model.

Recommendations

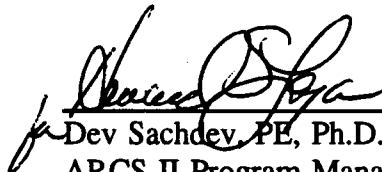
Based upon the information contained in the Preliminary Assessment performed by USEPA, the Hydrogeochemical Assessment of B259, and the resampling event performed by IBM and NYSDEC, the IBM Country Club site has been fully remediated. Resampling of the groundwater determined hazardous waste contamination is not present. A No Further Remedial Action Planned (NFRAP) is recommended for the site.

Prepared by:



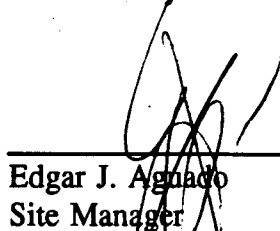
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Reviewed by:



Edgar J. Aguado
Site Manager
Ebasco Services Incorporated

REFERENCES

1. United States Environmental Protection Agency (USEPA), Revised Hazardous Ranking System, Final Rule, 40 CFR 300, Appendix A, December 14, 1990.
2. USEPA, Superfund Chemical Data Matrix, March 8 1993.
3. NUS, USEPA Potential Hazardous Waste Site Preliminary Assessment, IBM Country Club, January 1989.
4. Lawler, Matusky & Skelly Engineers, Hydrogeochemical Assessment of B259 Country Club Maintenance Building Area, March 1988.
5. Groundwater Sciences Corporation, Hydrogeochemical Assessment of B259 Country Club Maintenance Building Area Final Resampling, August 1990.
6. NYSDEC, Division of Hazardous Waste Remediation Inactive Hazardous Waste Disposal Report, March 1991.
7. USEPA File, Documentation Records For Hazardous Ranking System, IBM Country Club, July 1982.
8. United States Geological Survey (USGS), 7.5-Minute Series, Millbrook, NY Quadrangle 1960.
9. IBM Corporation, Hazardous Waste Manifest, South Carolina Department of Health and Environmental Control, July 13, 1988.

REFERENCE 1

Friday
December 14, 1990

Reference 1
p. 1 of 1

Final Report
Federal Register

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

REFERENCE 2

REFERENCE 2
p. 1 of 1

United States
Environmental Protection
Agency

Solid Waste And
Emergency Response
(OS-240)

9360.4-18
EPA ~~9360.4-18~~
~~November 1991~~
July 1994



Superfund Chemical Data Matrix

REFERENCE 3

02-8810-71-PA
REV. NO. 0

FINAL DRAFT
PRELIMINARY ASSESSMENT
IBM Country Club
POUGHKEEPSIE, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8810-71
CONTRACT NO. 68-01-7346

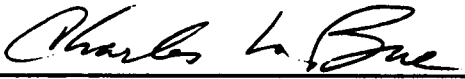
FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

JANUARY 31, 1989

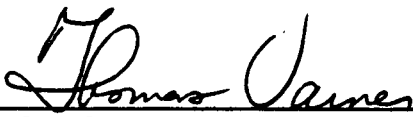
NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:



CHARLES LOBUE
PROJECT MANAGER

REVIEWED/APPROVED BY:



THOMAS VARNER
SITE MANAGER



RONALD M. NAMAN
FIT OFFICE MANAGER

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

PART I: SITE INFORMATION

1. Site Name/Alias IBM Country Club
Street Route 9 (South Road)
City Poughkeepsie State New York Zip 12602
2. County Dutchess County Code 027 Cong. Dist. NY-25
3. EPA ID No. NYD982531907
4. Latitude 41° 38' 36" N Longitude 73° 55' 12" W
USGS Quad. Poughkeepsie Quadrangle, 1957, photorevised 1982.
5. Owner International Business Machines Corp. Tel. No. (914) 433-1234
Street Route 9 (South Road)
City Poughkeepsie State New York Zip 12602
6. Operator Same as owner Tel. No. Unknown
Street _____
City _____ State _____ Zip _____
7. Type of Ownership
☒ Private ☐ Federal ☐ State
☐ County ☐ Municipal ☐ Unknown ☐ Other _____
8. Owner/Operator Notification on File
☐ RCRA 3001 Date _____ ☐ CERCLA 103c Date _____
☒ Unknown
9. Permit Information
- | Permit | Permit No. | Date Issued | Expiration Date | Comments |
|--|------------------|---------------------|---------------------|----------|
| State Pollutant Discharge
Elimination System
(SPDES) | <u>NY0005541</u> | <u>June 1, 1985</u> | <u>June 1, 1990</u> | _____ |
| _____ | _____ | _____ | _____ | _____ |
10. Site Status
☒ Active ☐ Inactive ☐ Unknown
11. Years of Operation 1940s to present
12. Identify the types of waste units (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.
- | Waste Unit No. | Waste Unit Type |
|----------------|--------------------|
| <u>1</u> | <u>dry well</u> |
| <u>2</u> | <u>septic tank</u> |
13. Information available from
Contact Amy Brochu Agency U.S. EPA Tel. No. (201) 906-6802
Preparer Thomas Varner Agency NUS Corp. Date January 31, 1989

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following seven items.

Waste Unit No. 1 - dry well

1. Identify the RCRA permit status, if applicable, and the age of the waste unit.

Not Applicable

2. Describe the location of the waste unit and identify clearly on the site map.

This waste unit consisted of a rock-filled dry well located about 5 feet outside of the western wall of the IBM country club maintenance building. A floor drain in this building led to a recessed oil/water separator tank that in turn discharged into the dry well.

3. Identify the size or quantity of the waste unit (e.g., area or volume of a landfill or surface impoundment, number and capacity of drums or tanks). Specify the quantity of hazardous substances in the waste unit.

The dry well was 3 to 5 feet deep, 10 feet wide, and 15 feet long. Its total volume was approximately 600 cubic feet (assuming a constant slope across the bottom). The quantity of hazardous substances deposited is unknown.

4. Identify the physical state(s) of the waste type(s) as disposed of in the waste unit. The physical state(s) should be categorized as follows: solid, powder or fines, sludge, slurry, liquid, or gas.

Liquid

5. Identify specific hazardous substance(s) known or suspected to be present in the waste unit.

Analysis of water samples collected from the dry well on November 20, 1987, revealed the presence of the following contaminants:

1,1-dichloroethane: 7.5 ug/L
1,1,1-trichloroethane: 200 ug/L
toluene: 15 ug/L

carbon tetrachloride: 27 ug/L
tetrachloroethylene: 36 ug/L
acetone: 62 ug/L

6. Describe the containment of the waste unit as it relates to contaminant migration via groundwater, surface water, and air.

There was no containment of this waste unit. Liquid was discharged into the rocks about 1 foot above the water table. Local groundwater flow is toward the nearby Casper Creek. Contaminants could also have volatilized from the recessed oil/water separator tank. (A vent from the tank was identified during excavation on November 20, 1987.)

7. Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

A stained area was observed in the vicinity of a gasoline fill pump located at the northwest corner of the maintenance building. A 5- by 5-foot area was excavated to a depth of 1.5 feet on November 20, 1987.

Ref. No. 2

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following seven items.

Waste Unit No. 2 - septic tank

1. Identify the RCRA permit status, if applicable, and the age of the waste unit.

Not applicable

2. Describe the location of the waste unit and identify clearly on the site map.

This waste unit consists of a septic tank located approximately 15 feet south of the IBM country club maintenance building. The septic tank received drainage from a sink in the maintenance building as well as from bathroom drains. Septic tank effluent ultimately discharged to a leach field approximately 140 feet east of the septic tank.

3. Identify the size or quantity of the waste unit (e.g., area or volume of a landfill or surface impoundment, number and capacity of drums or tanks). Specify the quantity of hazardous substances in the waste unit.

The size of the septic tank as well as the quantity of hazardous substances is unknown.

4. Identify the physical state(s) of the waste type(s) as disposed of in the waste unit. The physical state(s) should be categorized as follows: solid, powder or fines, sludge, slurry, liquid, or gas.

Liquid

5. Identify specific hazardous substance(s) known or suspected to be present in the waste unit.

Analysis of samples collected from septic tank surface and subsurface liquid on November 24, 1987 and November 25, 1987, respectively, revealed the presence of the following contaminants and their corresponding concentrations:

methylene chloride: 320 ug/L and 120 ug/L

1,1,1-trichloroethane: 67,000 ug/L and 11,000 ug/L

1,1-dichloroethane: 7,000 ug/L and 3,300 ug/L

6. Describe the containment of the waste unit as it relates to contaminant migration via groundwater, surface water, and air.

Contaminated effluent was discharged directly into the ground; groundwater is therefore potentially affected. Local groundwater flow is toward the Casper Creek. Volatilization of contaminants into the air from this waste unit is unlikely.

7. Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

See previous page.

Ref. No. 2

PART III: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.

There is a very high potential for a release of 1,1,1-trichloroethane, 1,1-dichloroethane, and toluene to groundwater. These compounds were detected in groundwater samples collected from shallow monitoring well CC-101S, located 10 feet from the dry well, as well as in dry well and other monitoring well samples.

Ref. No. 2 (Fig. 4-9, Table 3-1)

2. Describe the aquifer of concern; include information such as depth, thickness, geologic composition, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.

Sand and gravel units comprise the aquifer of concern, the most productive source of groundwater in the county. Distinct sand and gravel units may be found in alternating layers that are usually interbedded with layers of silt and clay. The sand and gravel layers are generally less than 25 feet thick but may be as thick as 50 feet. Sand and gravel comprise the principal unconsolidated deposit in an area approximately 4.5 miles long and 1.5 miles wide at its widest point. However, small areas of lacustrine (silt and clay) deposits overlie the sand and gravel, and act as confining layers.

Immediately above the dolostone bedrock beneath the site is a sand and gravel layer that ranges in thickness from 8 to 32 feet and in permeability from 3×10^{-5} to 2×10^{-3} cm/sec. Overlying this unit is a layer of sandy silt 1.5 to 38 feet thick that has a permeability of 4×10^{-5} cm/sec. Above that and extending to the ground surface is a clayey silt unit ranging 0 to 60 feet in thickness and from 1×10^{-6} to 4×10^{-5} in permeability, thus being the less permeable of the two deposits overlying the aquifer of concern.

Groundwater flow within the sand and gravel layer is to the east and southeast, toward Casper Creek. Groundwater lies 36 feet beneath the ground surface near the location of the dry well.

Ref. Nos. 2 (pp. 4-1, 4-2, 4-5; Fig. 4-2), 8

3. Is a designated sole source aquifer within 3 miles of the site?

A review of available information indicates that there are no sole source aquifers within 3 miles of the site.

4. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?

26 feet. The water level in monitoring well CC-101T was measured at an elevation of 94 feet. The bottom of the dry well was 10 feet below grade, which is at an elevation of 130 feet. Depth = $(130 - 10) - 94 = 26$ ft.

Ref. No. 2 (Fig. 4-2)

5. What is the permeability value of the least permeable intervening strata between the ground surface and the aquifer of concern?

1×10^{-6} cm/sec.

Ref. No. 2

6. What is the net precipitation for the area?

14 in.

Ref. No. 3

7. Identify uses of groundwater within 3 miles of the site (i.e., private drinking source, municipal source, commercial, industrial, irrigation, unusable).

Two public supply wells that serve the Village of Wappingers Falls and another two backup supply wells are known to draw water from the aquifer of concern. Another public supply well, owned by the Atlas Water Company, lies 1.75 miles from the site and serves 1,300 people, but its completion depth is not documented. One other municipal and 10 nonmunicipal community water systems (wells) lie within 3 miles of the site and serve a total of 1,934 people, but it is also unknown whether these draw from the aquifer of concern. Commercial, industrial, and irrigational use is not documented. No alternate drinking water supply is currently available in the Village of Wappingers Falls.

Ref. Nos. 7, 8, 14, 15

8. What is the distance to and depth of the nearest well that is currently used for drinking or irrigation purposes?

Distance 2.55 mi.

Depth 80 ft

Ref. No. 8

9. Identify the population served by the aquifer of concern within a 3-mile radius of the site.

There are at least 5,300 people that obtain drinking water from the aquifer of concern (Village of Wappingers Falls public supply).

Ref. No. 7, 8, 15

SURFACE WATER ROUTE

10. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminants to the facility.

There is no potential for a release to surface water. All contaminated waste was discharged beneath the ground surface.

Ref. No. 2

11. What is the facility slope in percent? (Facility slope is measured from the highest point of deposited hazardous waste to the most downhill point of the waste area or to where contamination is detected.)

Not Applicable

12. What is the slope of the intervening terrain in percent? (Intervening terrain slope is measured from the most downhill point of the waste area to the probable point of entry to surface water).

Not Applicable

13. What is the 1-year 24-hour rainfall?

The 1-year 24-hour rainfall is 3.0 inches.

Ref. No. 3

14. What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.

Not Applicable

15. Identify uses of surface waters within 3 miles downstream of the site (i.e., drinking, irrigation, recreation, commercial, industrial, not used).

No drinking water intakes are located within 3 miles downstream of the site along the Casper Creek. Also, this creek is not known to have recreational, industrial, or commercial uses within 3 miles of the site.

Ref. Nos. 7, 10

16. Describe any wetlands, greater than 5 acres in area, within 2 miles downstream of the site. Include whether it is a freshwater or coastal wetland.

Not Applicable

17. Describe any critical habitats of federally-listed endangered species within 2 miles of the site along the migration path.

Not Applicable

18. What is the distance to the nearest sensitive environment along or contiguous to the migration path (if any exist within 2 miles)?

Not applicable

19. Identify the population served or acres of food crops irrigated by surface water intakes within 3 miles downstream of the site and the distance to the intake(s).

Not applicable

20. What is the state water quality classification of the water body of concern?

Casper Creek is designated as a class C water body by the New York State Department of Environmental Conservation.

Ref. No. 13

21. Describe any apparent biota contamination that is attributable to the site.

No biota contamination is documented.

AIR ROUTE

22. Describe the likelihood of a release of contaminant(s) to the air as follows: observed, alleged, potential, none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.

There is a potential that a small quantity of contaminant vapors may have been released to the air through a vent line from liquid contained in the oil/water separator. Contaminated liquid disposed of in this manner, as determined by analysis of dry well samples, include 1,1-dichloroethane, 1,1,1-trichloroethane, toluene, carbon tetrachloride, acetone, and tetrachloroethylene.

Ref. No. 2

23. What is the population within a 4-mile radius of the site?

Approximately 60,700 people.

Ref. No. 12

FIRE AND EXPLOSION

24. Describe the potential for a fire or explosion to occur with respect to the hazardous substance(s) known or suspected to be present on site. Identify the hazardous substance(s) and the method of storage or containment associated with each.

No potential for fire or explosion exists since the substances of concern were discharged underground as liquid.

Ref. No. 2

25. What is the population within a 2-mile radius of the hazardous substance(s) at the facility?

Approximately 16,700

Ref. No. 12

DIRECT CONTACT/ON-SITE EXPOSURE

26. Describe the potential for direct contact with hazardous substance(s) stored in any of the waste units on site or deposited in on-site soils. Identify the hazardous substance(s) and the accessibility of the waste unit.

There is no potential for direct contact since the dry well and the septic tank are underground waste units.

Ref. No. 2

27. How many residents live on a property whose boundaries encompass any part of an area contaminated by the site?

None

Ref. No. 9

28. What is the population within a 1-mile radius of the site?

Approximately 8,100 people

Ref No 12

PART IV: SITE SUMMARY AND RECOMMENDATIONS

IBM Country Club consists of an inactive septic system and an inactive, 600-cubic-foot dry well located at the 370-acre IBM country club in Poughkeepsie Township, Dutchess County, New York. The site lies 1.25 miles east of the Hudson River and 850 feet west of the Casper Creek in a commercial/residential section of Poughkeepsie. There are approximately 27,800 people living within 3 miles of the site.

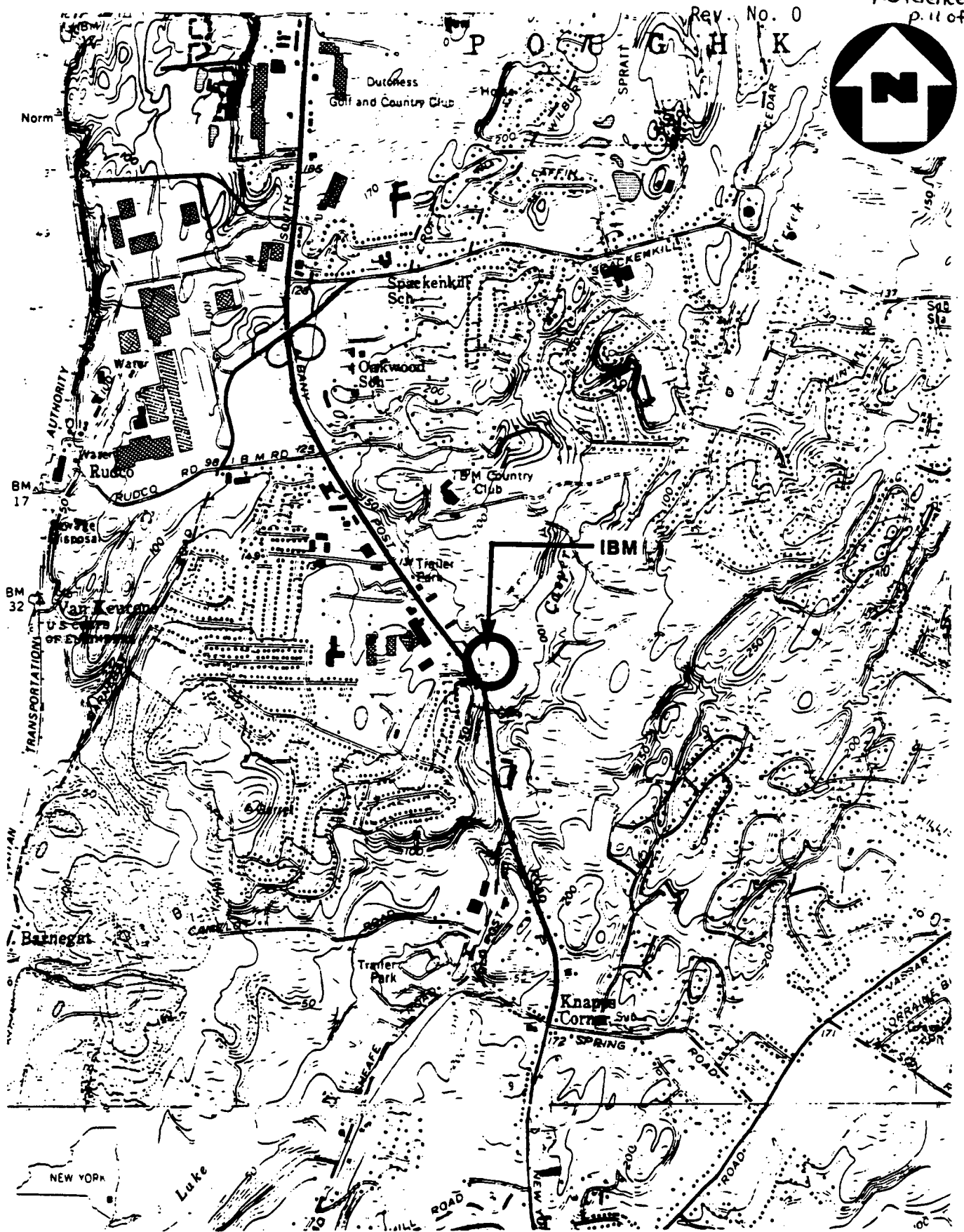
IBM has owned and operated the country club since the 1940s. A maintenance shed at the northern end of the country club property was used to maintain golf carts and groundskeeping equipment. Between 1983 and 1985 the shed was relocated near the southwest corner of the property. During a 1987 inspection of the shed by IBM, a floor drain was discovered that led into a recessed oil/water separator tank. Solvents that had been used to degrease equipment had been hosed off the machinery and allowed to run down the drain and into the tank, along with the dissolved oil and grease. This waste then exited the oil/water separator through a pipe to the dry well, which was discovered by IBM upon excavation of an area next to the shed. Analysis of water samples collected from the well revealed the presence of 1,1,1-trichloroethane, acetone, tetrachloroethylene, toluene, and 1,1-dichloroethane. Notable concentrations of 1,1,1-trichloroethane and 1,1-dichloroethane were found in samples collected from a septic tank that had been connected to a sink in the maintenance shed. The septic tank discharged this waste directly into the ground over an area of approximately 2,900 square feet. The septic tank was subsequently emptied, and the effluent line to the leach field was plugged. In 1988 the old tank was removed and a new one installed. The total quantity of hazardous substances disposed of in the well and the septic tank is unknown.

Analysis of groundwater samples collected from monitoring wells near and around the former dry well location showed the presence of several of the compounds that were found in dry well water samples. Groundwater is also potentially affected by septic tank discharge, since low concentrations of trichloroethane were found in groundwater samples collected from monitoring wells near the leach field. No potential for direct contact exists since all hazardous waste was discharged underground.

No cleanup actions other than those conducted by IBM have been initiated, nor are any known to be scheduled. Similarly, no enforcement actions are known to have been taken.

Based on analytical results that show contamination of the aquifer of concern downgradient from the waste units, and the use of this aquifer for drinking water, this site is recommended for a **MEDIUM PRIORITY** site inspection. Off-site, upgradient and downgradient groundwater samples should be collected to either confirm or disprove an observed release.

APPENDIX A
MAPS AND PHOTOGRAPHS



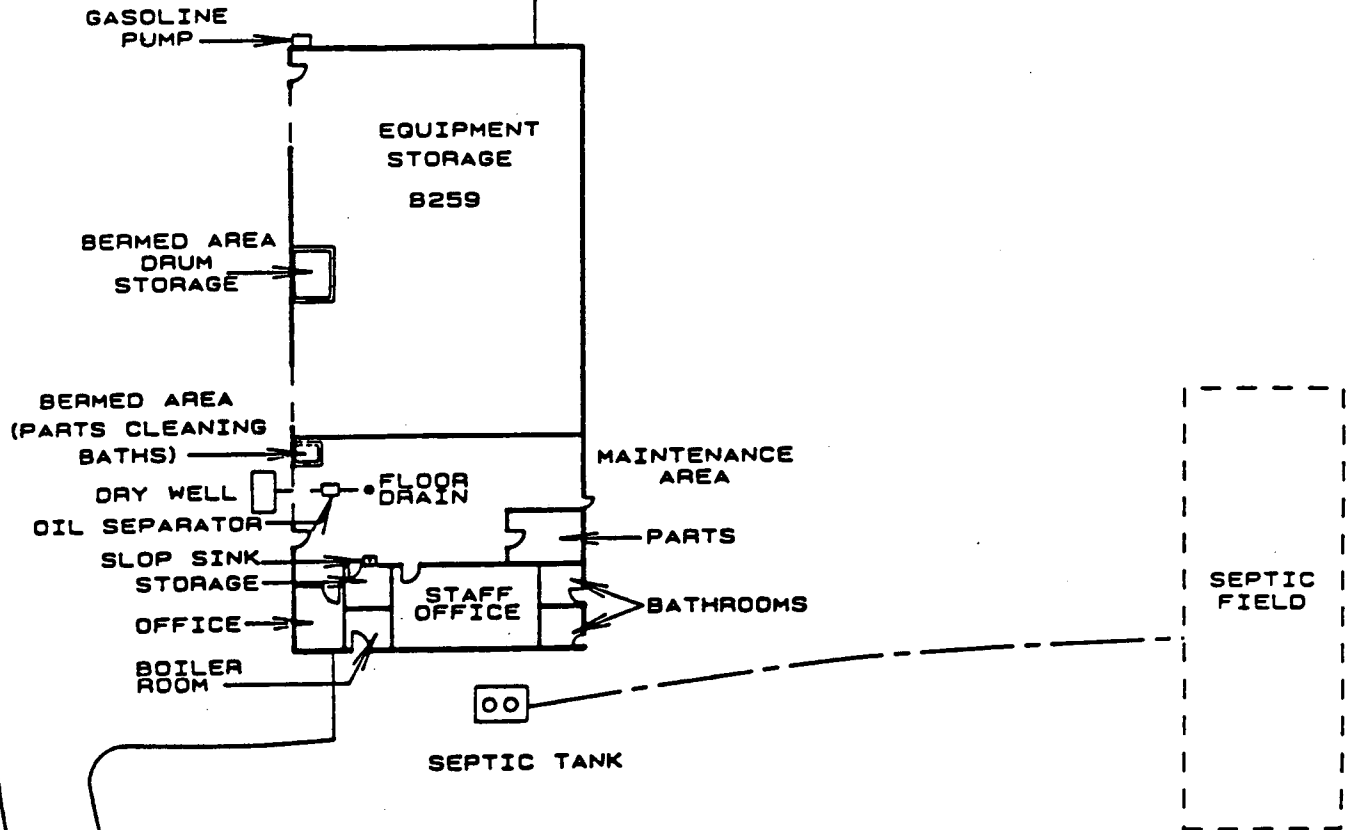
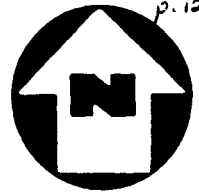
(QUAD) POUGHKEEPSIE, N.Y.

FIGURE 1

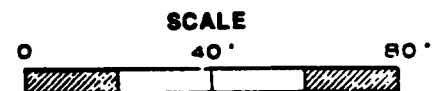
SITE LOCATION MAP
IBM COUNTRY CLUB, POUGHKEEPSIE, N.Y.



SCALE: 1"=2000'



SOURCE: HYDROGEOCHEMICAL ASSESSMENT OF
B259 COUNTRY CLUB MAINTENANCE
BUILDING AREA, MARCH, 1988.



SITE MAP
IBM COUNTRY CLUB, POUGHKEEPSIE, N.Y.

FIGURE 2



REFERENCE 4

IBM
Poughkeepsie, New York

**HYDROGEOCHEMICAL ASSESSMENT
OF
B259
COUNTRY CLUB MAINTENANCE
BUILDING AREA**

Final Report

March 1988

Groundwater Sciences Corporation
Lawler, Matusky & Skelly Engineers
Milton Chazen Associates

CHAPTER 1

INTRODUCTION

IBM, Poughkeepsie, has owned and operated a Country Club since the 1940s at the location shown on Figure 1-1. This facility is about 0.8 mile southeast of the IBM main plant, and comprises an 18-hole golf course, tennis and swimming facilities, a clubhouse, and supporting maintenance facilities. From 1983 to 1985 the Country Club underwent a major renovation, including revisions to the golf course layout, a new clubhouse, and relocation of the maintenance facility; the configuration has not changed since this last renovation.

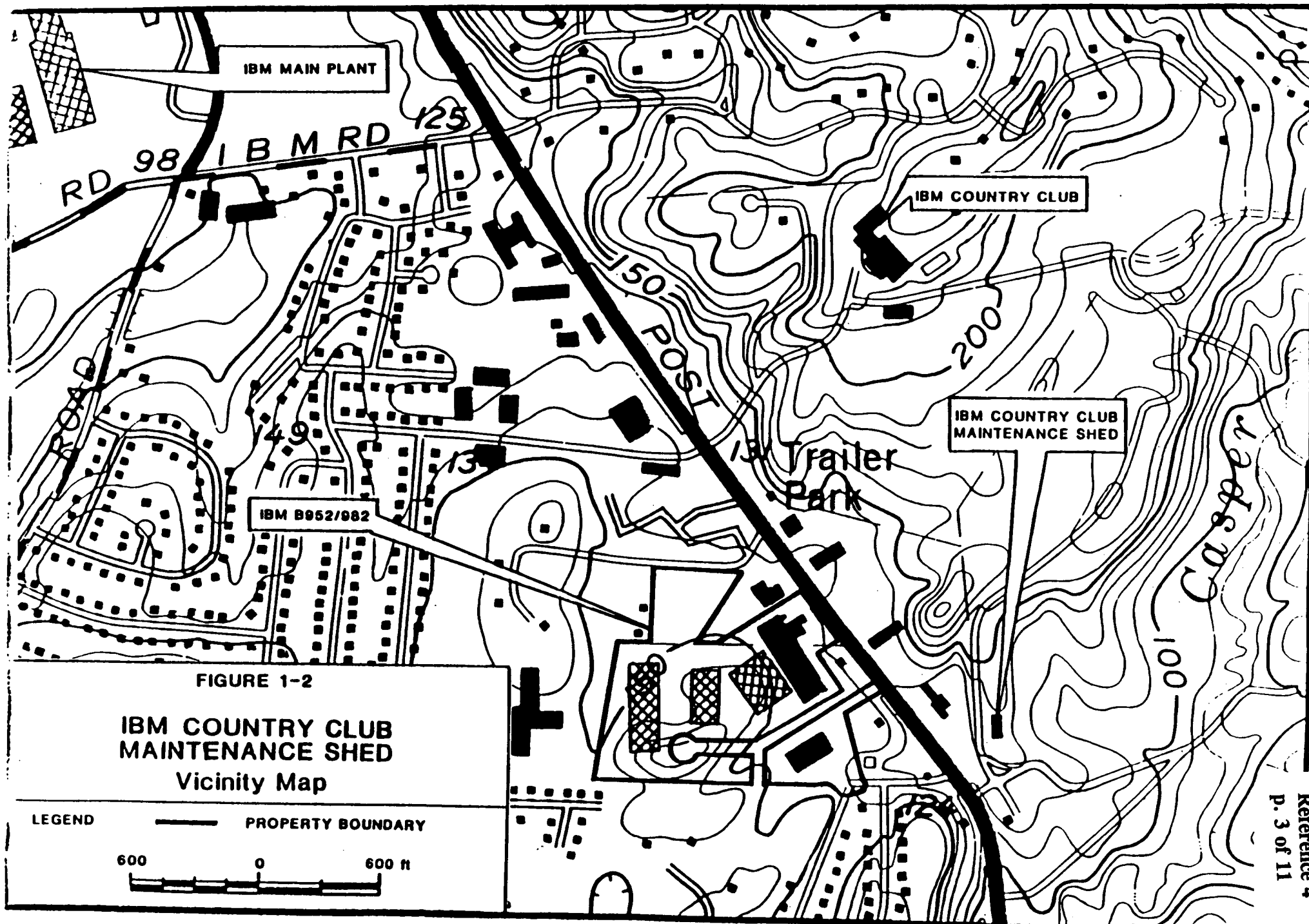
The 1983-1985 renovation included moving the B259 maintenance building to a new location in the southwestern portion of the Country Club (Figure 1-2). The new facility, still known as B259, has a septic system for sanitary wastes (SPDES No. NY-0142891). The old Building 259 was demolished.

Any GW contamination at old B259? Yes ... discussed in report

The new building is used to maintain golf carts and grounds-keeping machinery. In November 1987, in response to a request for operational changes at the building, IBM reviewed the operation, and discovered a floor drain connected to an oil separator, which in turn discharged to a dry well.

IBM immediately reported this situation to the New York State Department of Environmental Conservation (NYSDEC) and began an investigation, which has led to the present report. The report is organized as follows:

Chapter 2 presents relevant background information, including:



CHAPTER 3

SOURCE INVESTIGATION AND REMEDIATION

3.1 INTRODUCTION

This section of the report describes the initial investigations that identified the floor drain, the oil separator, the dry well, and the presence of solvent chemicals in both the dry well and the septic tank at B259. Figure 3-1 shows a plan of the B259 site, including those features inside and outside the building pertinent to the investigation. The chronology of events and the remedial actions taken at each stage of the investigation are presented along with a description of the activities at B259 that contributed the solvent chemicals. The source investigation phase covers the period from discovery of the oil separator to initiation of the detailed groundwater and soil investigation described in Chapter 4.

Since 1978, when IBM's corporate groundwater protection plan was initiated at the Poughkeepsie facilities, IBM has used a Remediation Decision Process to guide its response to findings of chemicals in sources and groundwater. The process is diagramed on Figure 3-2. This chapter covers the application of this decision process to the B259 maintenance shed, showing that potential sources of groundwater chemicals were located and removed.

3.2 OIL SEPARATOR/DRY WELL INVESTIGATION

In response to a request from the IBM Country Club maintenance group for approval to install a steam cleaning operation at B259, IBM environmental staff inspected the building on November 12, 1987. During this inspection a floor drain was found, which drained to a tank recessed in the slab floor of the maintenance area.

tenance area. The recessed tank contained approximately 30 gal of water with a floating oil layer. Immediately upon discovery of the floor drain and tank, B259 personnel were instructed not to perform any operations that could contribute flow to the floor drain. The contents of the tank were then pumped on November 13, 1987. Since the type of drain installation found at B259 was not typical of IBM designs and all piping was under the slab floor, the IBM personnel who made the discovery could not immediately determine how the system functioned. IBM, therefore, retained an independent consultant [Lawler, Matusky & Skelly Engineers (LMS)] on November 13, 1987, to investigate the design and operation of the drain system at B259. The investigation undertaken by LMS included a site inspection, interviews with B259 operating personnel and construction contractors, a records search, and the review of drawings and permits. LMS began its investigation on November 16, 1987, by inspecting the site and interviewing B259 operating personnel. The tank was found to be empty at that time and remained empty through the rest of the investigation.

Further inspection of the empty tank indicated that it had three chambers, designed to retain floatable oil in the first chamber and settleable material in the second, with overflow to the third chamber. Since all drain piping was in or under the slab floor, the presence of drains or the possible points of discharge from the oil separator could not be determined by inspection. Interviews with construction contractors and review of available drawings did not provide sufficient information to locate drain lines from the oil separator.

Discussions with operating personnel in B259 indicated that standard operating procedures were to catch oil removed from machines and put it in the waste accumulation drum in the bermed containment area. The oil initially observed in the oil separator was con-

cluded to have resulted from oil spills or drips and floor cleaning.

As a result of the above investigation, it was determined on November 19 that excavation was the most direct method to locate the drain lines. On November 20, 1987, the area adjacent to the west side of B259 was excavated and a single discharge connection to a rock-filled dry well was found (see Figure 3-1). The other exit lines from the oil separator were also identified, as a vent and a plugged pipe. There was no connection from the oil separator to the septic tank.

As determined by the excavation, the dry well consisted of 3 to 5 in. stone in a volume approximately 3 to 5 ft in depth, 10 ft in width, and 15 ft in length. The top of the rock was approximately 5 ft below grade, and the 4-in. diameter oil separator discharge pipe projected 5 ft into the dry well 0.5 ft below the top of the rock. The rock immediately in front of the discharge pipe was carefully removed and inspected. There was no sign of oil stain or other discoloration on the rocks or on the soil around the dry well. Clean water was run through the discharge pipe from the oil separator and no oil or other chemical presence was visible.

During excavation of the dry well, water was initially encountered at approximately 6.5 ft below grade, or 1 ft below the discharge pipe. Rock removal was continued from the center of the dry well until soil was encountered at the bottom. After removal of the rock, the water in the excavation was muddy, and small areas with a very slight film were observed. Approximately 250 gal of water was pumped from the excavation to a vacuum truck. At the start of pumping, water flowed rapidly into the excavation from the surrounding dry well rock. After removal of approximately 250 gal, the water level stabilized at approximately 4 ft below the discharge pipe (9.5 ft below grade). After pumping, close inspection

of the remaining water showed small areas (2 to 3 in.²) of surface film. Samples of the standing water, including some surface film, were collected on Friday, November 20, 1987, for expedited analysis of total petroleum hydrocarbons and volatile organic compounds (VOCs).

The NYSDEC regional office (Mr. Shayne Mitchell) was notified of the situation within hours of the excavation on November 20, 1987,* and was also informed that samples were collected and that the oil separator discharge pipe was plugged. Mr. Mitchell indicated that backfilling could proceed without his inspection. The excavation was backfilled with gravel to avoid problems with settling and compaction since the excavation was immediately in front of the garage doors leading to the maintenance area.

The laboratory analysis results were reported orally on Monday, November 23, 1987. As indicated in Table 3-1, the dry well samples contained 1,1,1-trichloroethane (TCA), tetrachloroethylene (PCE), carbon tetrachloride, acetone, toluene, and 1,1-dichloroethane (DCA). No petroleum hydrocarbons were detected, consistent with the visual observations of no stains, described above. These analytical results were the first indication of the presence of solvent chemicals. The low concentrations observed indicate that the quantities of solvent chemical released to the dry well were small (not separate phase product).

NYSDEC (Mr. Shayne Mitchell) was notified of the above results on November 24, 1987, and of IBM's intent to continue the investigation, including sampling the septic tank. IBM also immediately confirmed that all adjacent properties had been connected to town water as described in Section 2.4.

*Appendix D contains copies of all written correspondence with NYSDEC on the B259 investigation.

TABLE 3-1

VOLATILE ORGANIC COMPOUNDS DETECTED IN B259 DRY WELL AND SEPTIC TANK ($\mu\text{g/l}$)

COMPOUND ^a	DRY WELL		SEPTIC TANK		
	20 NOV 1987		24 NOV 1987		25 NOV 1987
	REP-1	REP-2	SURFACE	SUBSURFACE	SUBSURFACE
Carbon tetrachloride	27	27	ND	ND	ND
1,1-dichloroethane	7.5	7.5	7,000	2,600	3,300
Methylene chloride	ND	ND	320	50	120
Tetrachloroethylene	36	34	ND	ND	ND
1,1,1-trichloroethane	200	190	67,000	7,500	11,000
Toluene	15	14	ND	ND	ND
Acetone	62	ND	NA	NA	NA
Petroleum hydrocarbons (PHC)	ND	ND	NA	NA	NA

^aAll other Method 601/602 volatile compounds were not detected.

ND - Not detected.

NA - Not analyzed.

Note: Complete analytical results in Appendix C-4.

3.3 SEPTIC TANK INVESTIGATION

Based on the detection of solvent chemicals in the dry well, the B259 septic tank, which received drainage from a sink in the maintenance area as well as from bathroom drains, was sampled for VOCs on November 24 and 25, 1987. The results of the septic tank samples were reported within 24 hrs of sample collection. The first sample (November 24, 1987), shown in Table 3-1, was collected from the surface of the septic tank after the tank contents were mixed to check an area where traces of a surface film were observed. The second sample on November 24, 1987, and the November 25, 1987, sample, were collected from the mixed volume of the tank. The latter two samples are considered representative of average concentrations in the tank, while the surface sample indicates higher concentrations in the small areas of surface film. As indicated in Table 3-1, 1,1,1-TCA, methylene chloride, and 1,1-DCA were detected in the three septic tank samples.

The contents of the septic tank were pumped on November 25, 1987, and the solid and liquid fractions separately disposed of at appropriate facilities. The effluent line from the septic tank to the leach field was also plugged on November 25, 1987. The tank was operated as a holding tank for B259 sanitary waste, with no discharge to the leach field, until January 13, 1988, when the septic tank was replaced with a new tank. The septic tank was replaced by IBM to preclude any possible future release of solvent chemical that might desorb from the concrete tank. The original septic tank was disposed of at a secure landfill.

IBM called NYSDEC on December 7, 1987, and the results of the septic tank analyses were given to Mr. Mitchell. NYSDEC was also informed at that time that the effluent line from the septic tank had been plugged and that IBM intended to initiate drilling of monitoring wells.

3.4 GASOLINE FILL AREA

During the preliminary investigation at B259 a small area of stained gravel (4 ft²) was observed in the vicinity of a gasoline fill pump at the northwest corner of B259. A 5 x 5 ft area was excavated to a depth of 1.5 ft on November 20, 1987. The excavation included approximately 6 in. of gravel and 1 ft of soil. There was no observable staining in the soil below the gravel. The excavated material was drummed for disposal and clean gravel was used to backfill. The gasoline fill area was also included in the groundwater and soil investigation program (Chapter 4).

3.5 SOLVENT CHEMICAL SOURCE INVESTIGATION

Review of the results from the dry well indicated that no petroleum hydrocarbons were detected, indicating that Solvent K, a petroleum distillate in use at B259, had not been released to the dry well. Further investigation revealed the periodic use of aerosol cans of commercially available engine cleaners by contractor maintenance personnel at B259. The cleaners were used to remove oil and grease from grounds-keeping equipment before maintenance was performed. Typically, the cleaners would be applied to a machine directly from the aerosol can, allowed to soak for a period, and then rinsed off with a hose. The rinse water containing the oil and grease and residual solvents was washed into the floor drain and to the oil separator.

The types of cleaners used are available over the counter for home use and contain the solvent chemicals found in both the dry well and the septic tank. The method of use described above, application followed by water rinse, is consistent with the instructions on the labels of these products. This procedure obviously can result in the discharge of small quantities of the unvolatilized solvents and oil and grease with the rinse water. The design of

the oil separator and the septic tank would provide some removal of chemicals by volatilization from the surface and solids removal. Both devices prevent discharge of surface water from the first chamber and provide solids retention.

3.6 ADMINISTRATIVE ACTION

Equipment maintenance activities at B259 were immediately suspended when the solvent chemical were detected in the dry well. Major maintenance activities will be done off-site in the future. No solvent cleaning will be performed at B259. Minor maintenance (oil changes, mechanical adjustments) will continue to be performed, but wastes will continue to be contained for off-site disposal at appropriate facilities. The sink in the maintenance area was removed so that only the bathroom facilities drain to the septic tank.

REFERENCE 5

MEMORANDUM

Reference 5
p. 1 of 17

TO: J. Swartwout, R. Pergadia, D. Markell
FROM: Robert Marino, Site Control Section, BHSC
SUBJECT: Petition to Delist, IBM Country Club Site, ID #314079

DATE: September 18, 1990

Enclosed is a copy of a petition from IBM Corporation to delist the subject site from the Registry of Inactive Hazardous Waste Disposal Sites.

Please review this petition for technical/legal sufficiency and submit your comments/recommendations to me no later than October 8, 1990.

If you have any questions, please contact me or Ms. Linda Beagle, of my staff at 457-0747.

Enclosure

International Business Machines Corporation

PO Box 950
Poughkeepsie, NY 12602

August 29, 1990

Mr. Thomas C. Jorling
Commissioner
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, New York 12233

Re: Petition to Delist IBM Country Club Site, Poughkeepsie, New York
Site No. 3-14-079

Dear Mr. Jorling:

This letter constitutes a formal petition by the IBM Corporation to have its Country Club property in the town of Poughkeepsie (site no. 3-14-079) delisted from the NYS Registry of Inactive Hazardous Waste Disposal Sites. This facility is listed on the registry as a Class 2a site.

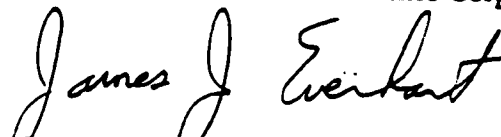
The current description of the site in the registry specifies that it constitutes an area contained within a 300-foot radius of the on-site maintenance building. This same area is also subject to an Order on Consent between IBM and NYSDEC Region 3 Division of Water, which requires that IBM perform a final resampling of groundwater to confirm that concentrations do not exceed concentration limits for Class GA waters specified in TOGS 1.1.1. The attached report (which includes a copy of the Order on Consent as Appendix A) documents the results of that resampling and clearly demonstrates that these limits are not exceeded.

Mr. John B. Swartwout, P.E., Chief, Eastern Investigation Section, Bureau of Hazardous Site Control, Division of Hazardous Waste Remediation, has indicated that the results of this resampling would provide the basis for delisting this site from the registry. IBM is, therefore, submitting this report to you as supporting documentation for this petition to delist.

If you require additional clarification of this information, please contact me or Mr. George Lopuch of IBM at (914) 433-9391. IBM is anxious to conclude the delisting of this facility and will cooperate in any way possible to expedite your review and approval of this petition.

Sincerely,

International Business Machines Corporation



James J. Everhart, P.E., Manager
Environmental Programs and Maintenance

SEP 4 1990

**HYDROGEOCHEMICAL ASSESSMENT
OF B259 COUNTRY CLUB
MAINTENANCE BUILDING AREA**

FINAL RESAMPLING

Prepared for:

**IBM Corporation
Poughkeepsie, New York**

August 1990

**Groundwater Sciences Corporation
Two Summit Court, Suite 204
Fishkill, New York 12524**

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Respectfully submitted,

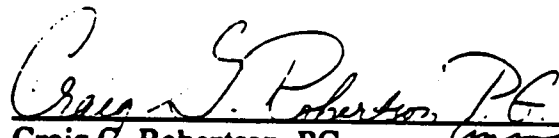

**Craig G. Robertson, PG
President**

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Appendix A:	Order on Consent
Appendix B:	Protocols
Appendix C:	Field Data Sheets
Appendix D:	Chain of Custody Forms
Appendix E:	Laboratory Results

1 SUMMARY INTRODUCTION AND CONCLUSIONS

Groundwater Sciences Corporation (GSC) has prepared this report to present the results of the Building 259 resampling. The work performed in the preparation of this report began in May 1990 and was completed in August 1990.

1.1 Historical Summary and Conclusions

IBM, Poughkeepsie, has owned and operated a Country Club since the 1940's at the location shown on Figure 1-1. This facility is approximately one mile southeast of the IBM Main Plant, and includes an 18-hole golf course, tennis, swimming, a clubhouse, and supporting maintenance facilities. From 1983 to 1985 the Country Club underwent a major renovation and the configuration has not changed since this last renovation.

The 1983-1985 renovation included moving the maintenance building (B259) to a new location in the southwestern portion of the Country Club. The new facility, still known as B259, has a septic system for sanitary wastes (SPDES No. NY-0142891). The old B259 was demolished.

The new building is used to maintain golf carts and grounds-keeping machinery. In November 1987, IBM's environmental staff reviewed the operation, and discovered a floor drain connected to an oil-water separator, which in turn discharged to a dry well.

IBM immediately reported this situation to the New York State Department of Environmental Conservation (NYSDEC) and began an investigation, which led to the report entitled "Hydrogeochemical Assessment of B259 Country Club Maintenance Building Area, Final Report," dated March 1988. Figure 1-2 is a map of the B259 investigation site and includes the location of monitoring wells installed during the study.

The data collected during that investigation indicated that low concentrations of ten organic compounds were present in some of the wells, partly as a result of on-site releases to the dry well and some incidental releases to the septic system, but also as a result of background bedrock contamination from off-site sources. No consistent, definable plumes were identified as a result of this release.

These data were also reviewed with respect to IBM's Remediation Decision Process (RDP), which has been used by IBM since the early 1980's to determine the environmental and administrative course of action with regard to environmental releases. As a result of this analysis, it was determined that any possible source of in-place chemicals was removed when IBM excavated the dry well and removed the septic tank and surrounding soils. This analysis further resulted in the conclusion that although some chemicals were detected in groundwater, no plume developed from this release due to the early discovery and removal of the source. The overall conclusion, therefore, was and is that this release did not cause a significant threat to human health or the environment.

Additional monitoring of groundwater quality was performed for a period of one year to support and verify this conclusion. The results of this monitoring confirmed that no plume had developed as a result of this release. Therefore, no further monitoring was necessary and monitoring ceased. The results of this additional monitoring were submitted to NYSDEC in an addendum to the March 1988 report, published in August 1989.

On December 21, 1989, an Order on Consent was issued by NYSDEC (Appendix A). Contained within the order was a Schedule of Compliance which specified the following:

1. Resampling of ten wells and analysis for ten organic chemicals with results reported to NYSDEC by October 1, 1990;

2. No further action, including monitoring or remedial action, if concentration limits published in TOGS 1.1.1 for the ten chemicals are not exceeded; and
3. Corrective action to be taken, as deemed necessary by NYSDEC based on TOGS 2.1.1, only if concentration limits for one or more constituents were exceeded in one or more of the wells.

In late May and early June 1990, GSC conducted the final sampling round of the wells listed in the Schedule of Compliance. Wells CC-101S, CC-102T, CC-105T, CC-107T, CC-108T, CC-109S, CC-109T, CC-110R, CC-110T and CC-DW3 were sampled and analyzed for the following constituents, as listed in the Schedule of Compliance: carbon tetrachloride, 1,1-dichloroethane, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, toluene, benzene, total xylenes and acetone.

The results of this resampling show that none of the concentration limits is exceeded in any of the wells. Therefore, pursuant to the terms of the Order on Consent, no additional action must be taken at this site, including monitoring.

1.2 Purpose and Organization of Report

The purpose of this report is to document the results of this final sampling round. The methods used to obtain the groundwater samples are presented in Section 2. A discussion of the results and their relationship to the groundwater standards or guidance values stipulated in the Order on Consent for B259 is presented in Section 3. Appendix A contains a copy of the order; Appendix B contains protocols; Appendix C contains sampling field data sheets; Appendix D contains chain of custody forms; and Appendix E contains analytical reports from the laboratory.

Otherwise, WaTerra pumps were used in the remaining two-inch wells. Submersible pumps were used to purge all the six-inch diameter bedrock wells. All purging equipment was properly decontaminated before use or reuse.

Data recorded on the pre-printed field data sheet are the date, the static water level, personnel performing the purge, the air temperature, wind speed and direction, the method used to purge the well, the start and stop time of the purging, the volume of water removed, and the water level at the end of the purge period. Ninety percent recovery was also calculated, using the formula on the pre-printed field data sheet.

Sampling was begun when the static water level had recovered to 90% of its original elevation, or within two hours of the end of the purge interval, if 90% recovery had not been achieved. Samples were collected using steam-cleaned, stainless steel, one-inch diameter bailer, with Teflon check valves at the top and bottom of the bailer. Bailers were lowered on 80-lb. test monofilament nylon line to the depth of the middle of the screened zone in the overburden wells, or the water-bearing zones in bedrock wells. The bailer was then raised and lowered 10 times in this interval to mix the water column, but at no time did the bailer break the water column surface. Upon bringing samples to the surface, two 40-ml. VOA vials preserved with hydrochloric acid were filled using a Teflon bottom-emptying device on the bailer. All bottles were checked to ensure they were free of headspace. Immediately after sampling, pH, specific conductance, and water temperature data were collected and recorded on the field data sheets. Samples were stored on ice at 4°C until delivered to the laboratory.

The vials were labeled with the sample ID number, the date and time of sampling, the sampler's initials, and the analyses requested. The remainder of the field data sheet was then completed. The

2 RESAMPLING WORK PLAN AND PROCEDURES

Before the B259 resampling was begun, a protocol was prepared to detail the procedures for obtaining representative groundwater samples from the wells at B259. The following subsections describe these procedures.

2.1 Physical Well Data

Before purging a well, physical well data were recorded on pre-printed field data sheets (Appendix A). The data recorded were:

1. Well Location
2. Well ID
3. Physical Well Condition
4. Well Construction
5. Depth of the Well

Once the identity and integrity of the well construction were verified, the well could be purged.

2.2 Purging and Sampling

Purging of each well began with the measurement of the static water level. Based on the static water level, the total well depth, and the diameter of the well, the volume of the water column in the well was calculated. Three well volumes were required to be removed before sampling. Based on the diameter of the well and the volume of water to be removed, a decision was made as to the type of pump to be used for the well purging. Peristaltic pumps were used in two-inch wells when the purge volumes were less than twenty gallons and the static water level was less than 25 feet.

following information was entered on the pre-printed field data sheet: the sample ID number, date, personnel, air temperature, sky conditions, wind speed and direction, water level at time of sampling, sampling depth, sampling method, and sampling start and stop time.

2.3 Quality Assurance and Quality Control

In order to ensure the integrity of the samples collected, a field quality assurance and quality control program was implemented. A trip blank was used to detect any contamination of samples that occurred during transport to the laboratory. The trip blank accompanied the sample bottles during transport from the laboratory; to the sampling locations, and back to the laboratory. The trip blank received the same analysis (EPA Methods 601/602) as the groundwater samples.

An equipment rinsate blank was collected to ensure that the bailers had been properly decontaminated. The rinsate blank was collected by pouring deionized water into the bailer, and emptying the bailer into a 40-ml. glass vial. Rinsate blanks received the same analysis (EPA Methods 601/602) as the groundwater samples.

Split samples were collected at two locations during the B259 resampling. The split samples were collected during the normal sampling, but were sent to a different laboratory for the same analyses. The split samples provide a check on laboratory accuracy. Split samples from well CC-107T exhibited 2.3 $\mu\text{g/l}$ 1,1,1-trichloroethane in the analysis done by EnviroTest Laboratories, Inc., in Newburgh, New York (EnviroTest), and 3.0 $\mu\text{g/l}$ 1,1,1-trichloroethane in the analysis done by Camo Laboratories, Inc., in Poughkeepsie, New York, (Camo). Split samples were also collected during the CC-108T resampling on June 16, 1990. The split samples all showed benzene to be not detected at 1 $\mu\text{g/l}$.

Two blind duplicates were also collected. Blind duplicates are samples collected from the same well and submitted to the same laboratory under different sample ID's. Thus, they are "blind" to the laboratory. The blind duplicates provide a check on the reproducibility of the results generated by the laboratory. A blind duplicate was collected during the June 16, 1990, resampling of well CC-108T. The results show benzene not detected at 1 $\mu\text{g/l}$, which agrees with sample and split sample results. A blind duplicate was also collected at well CC-DW3 on May 31, 1990. The original sample exhibited 2.8 $\mu\text{g/l}$ of 1,1,1-trichloroethane. The blind duplicate was reported to contain 3.2 $\mu\text{g/l}$ of 1,1,1-trichloroethane, indicating good reproducibility of the results.

Records of all the trip blanks, sample splits, blind duplicates and sample blanks are entered on the pre-printed field data sheets and are included in Appendix B.

2.4 Chain of Custody

The Chain of Custody provides a method of tracking the samples from the laboratory to the sampling location, and back to the laboratory. The Chain of Custody also stipulates which analyses shall be performed on the samples.

The Chain of Custody sheets in Appendix C were used for the B259 resampling. The pre-printed sheets contain the sampling location, date, time, sample ID number, the type and number of bottles and any preservatives, as well as the analyses to be performed on the samples. All samples were hand-delivered by GSC employees. The Chain of Custody forms require a signature from the GSC employee delivering the sample, as well as from the laboratory representative receiving the sample. All samples were analyzed within seven days of receipt by the laboratory, well within the EPA holding time of 14 days.

3 RESULTS

All samples collected during the B259 resampling were analyzed using EPA Methods 601/602 for the following compounds: carbon tetrachloride, 1,1-dichloroethane, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, toluene, benzene, total xylenes and acetone. The results of these analyses are summarized in Table 3-1. Well CC-101S was dry, therefore it could not be sampled, and has remained dry since the sampling round. The remaining wells, CC-102T, CC-105T, CC-107T, CC-108T, CC-109S, CC-109T, CC-110R, CC-110-T, CC-DW3, were sampled and analyzed, as specified by the Order on Consent. The detection level for all compounds was of 1 $\mu\text{g/l}$, with the exception of acetone. Acetone was reported with a detection limit of 20 $\mu\text{g/l}$ for EnviroTest and 10 $\mu\text{g/l}$ for Camo.

As shown in Table 3-1, wells CC-102T, CC-109S, CC-109T, and CC-110T exhibited none of the above-listed chemicals. Wells CC-107T, CC-110R, and CC-DW3 exhibited concentration levels above the detection limit of 1 $\mu\text{g/l}$, but below the concentration limit specified in the consent order.

Table 3-1
IBM Poughkeepsie B259 Sampling Results

COMPOUND	STANDARD (ppb)	GUIDANCE VALUE (ppb)	WELL CC-101S 06/01/90	WELL CC-102T 05/30/90	WELL CC-105T 06/04/90	WELL CC-107T 5/31/90	WELL CC-107T 5/31/90 SPLIT	WELL CC-108T 06/07/90	WELL CC-108T 06/16/90	WELL CC-108T 06/16/90 SPLIT	WELL CC-108T 06/16/90 SPLIT	WELL CC-108T 06/16/90 SPLIT	WELL CC-108T 8/18/90 BLIND DUP. (CC431T)	WELL CC-109S 05/31/90	WELL CC-109T 06/04/90	WELL CC-110R 05/31/90	WELL CC-110T 8/4/90	WELL CC-DW3 05/31/90	WELL CC-DW3 05/31/90 BLIND DUP. (CC401T)
			ENVIRO	ENVIRO	ENVIRO	ENVIRO	CAMO	ENVIRO	ENVIRO	CAMO	E. FISH	ENVIRO	ENVIRO	ENVIRO	ENVIRO	ENVIRO	ENVIRO	ENVIRO	ENVIRO
Carbon tetrachloride	5	-	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	NA	NA	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
1,1 Dichloroethane	-	50	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	NA	NA	NA	ND@1	ND@1	1.8	ND@1	ND@1	ND@1	ND@1
Methylene chloride	-	50	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	NA	NA	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
Tetrachloroethylene	-	0.7	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	NA	NA	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
1,1,1 Trichloroethane	-	50	DRY	ND@1	ND@1	2.3	3.0	1.6	NA	NA	NA	NA	ND@1	ND@1	1.4	ND@1	2.8	3.2	3.2
Trichloroethylene	10	-	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	NA	NA	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
Toluene	-	50	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	ND@1	ND@0.15	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
Benzene	ND	-	DRY	ND@1	ND@1	ND@1	ND@1	1.2	ND@1	ND@1	ND@0.09	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
Total xylenes	-	50	DRY	ND@1	ND@1	ND@1	ND@1	ND@1	NA	ND@1	ND@0.12	NA	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1	ND@1
Acetone	-	-	DRY	ND@20	ND@20	ND@20	ND@10	ND@20	NA	ND@10	NA	NA	ND@20	ND@20	ND@20	ND@20	ND@20	ND@20	ND@20

NA Not analyzed.

ND Not detected.

All results reported in µg/l.

* Believed to result from ambient air contamination, not confirmed by resampling with four replicates analyzed by three separate state-certified laboratories, including one reporting at the 0.09 µg/l detection limit.

Well CC-108T exhibited 1.2 $\mu\text{g/l}$ of benzene during the initial sampling on June 7, 1990. A review of the historical data gathered in previous investigations revealed that well CC-108T had exhibited 1.4 $\mu\text{g/l}$ of benzene during the December 22, 1987, sampling. However, since then, seven sampling results have shown benzene to be not detected at 1 $\mu\text{g/l}$.

During the June 7 sampling, gasoline-powered maintenance vehicles were operated in close proximity to well CC-108T. Exhaust fumes from the operation of these vehicles was a probable source for the benzene in the ambient air near this well, which could have contaminated the sample. Therefore, to verify the analysis gathered on June 7, 1990, another set of samples was gathered on Saturday, June 16, 1990, when no vehicles were operating in the vicinity of this well. The sample, a blind duplicate, and two split samples were collected. The sample and blind duplicate were submitted to EnviroTest. The split samples were sent to Camo and IBM's East Fishkill Laboratory. The results are listed in Table 3-2. Three of these analyses report benzene as not detected at 1 $\mu\text{g/l}$, and one reports it as not detected at 0.09 $\mu\text{g/l}$.

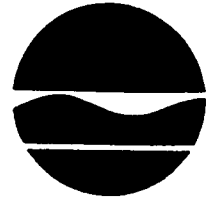
Based on this information, it can be concluded that the benzene reported in the original analysis is not related to groundwater contamination, but was in the ambient air, thereby contaminating the June 7, 1990, sample.

Table 3-2
Summary of Well CC-108T Results

COMPOUND	STANDARD (ppb)	GUIDANCE VALUE (ppb)	WELL CC-108T 06/07/90	WELL CC-108T 06/16/90	WELL CC-108T 06/16/90 SPLIT	WELL CC-108T 06/16/90 SPLIT	WELL CC-108T 06/16/90 BLIND DUP.
			ENVIRO	ENVIRO	CAMO	E. FISH	ENVIRO
Carbon tetrachloride	5	-	ND@1	NA	NA	NA	NA
1,1 Dichloroethane	-	50	ND@1	NA	NA	NA	NA
Methylene chloride	-	50	ND@1	NA	NA	NA	NA
Tetrachloroethylene	-	0.7	ND@1	NA	NA	NA	NA
1,1,1 Trichloroethane	-	50	1.6	NA	NA	NA	NA
Trichloroethylene	10	-	ND@1	NA	NA	NA	NA
Toluene	-	50	ND@1	NA	ND@1	NA	NA
Benzene	ND	-	1.2	1	ND@1	ND@0.09	ND@1
Total xylenes	-	50	ND@1	NA	ND@1	ND@0.12	NA
Acetone	-	-	ND@20	NA	ND@10	NA	NA
NA Not analyzed. ND Not detected. All results reported in µg/L							

REFERENCE 6

FILE



Thomas C. Jorling
Commissioner

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Mr. James J. Everhart, P.E.
Manager
Environmental Programs Maintenance
International Business Machines Corp.
P.O. Box 950
Poughkeepsie, New York 12602

Dear Mr. Everhart:

Re: Petition to Delist
IBM Country Club
Site No. 314079

This letter is in response to your letter of November 15, 1990 requesting that the subject site be delisted from the Registry of Inactive Hazardous Waste Disposal Sites in New York State.

Based on our review of the additional information submitted, the site is being reclassified to Class 5, indicating that all remedial actions and monitoring are considered complete and no further action is required. Official notification of this reclassification will be issued shortly.

If we can be of further assistance, please contact Mr. Robert Marino, Chief, Site Control Section at (518) 457-0747.

Sincerely,

Michael J. O'Toole, Jr., P.E.
Director
Div. of Hazardous Waste Remediation

cc: Mr. George Lopuch
bcc: M. O'Toole (2)
C. Goddard
E. Barcomb
R. Marino
D. Markell, DEE
R. Tramontano, DOH
J. Eckl, DEE
A. McCarthy, R/3
R. Pergadia, R/3
J. Swartwout
L. Beagle

LB/me

DRAFT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 5 REGION: 3 SITE CODE: 314079
EPA ID: NYD982531907

NAME OF SITE: IBM Country Club
STREET ADDRESS: Route 9
TOWN/CITY: Poughkeepsie COUNTY: Dutchess ZIP: 12602

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: Acres

SITE OWNER/OPERATOR INFORMATION:

CURRENT OWNER NAME.....: IBM Poughkeepsie
CURRENT OWNER ADDRESS.: P.O. Box 950, Poughkeepsie, NY
OWNER(S) DURING USE....: IBM Poughkeepsie
OPERATOR DURING USE....: IBM Poughkeepsie
OPERATOR ADDRESS.....: P.O. Box 950, Poughkeepsie, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From To

SITE DESCRIPTION:

This site includes building 259, the maintenance building, & a circular area with a 300 foot radius centered on the drywell on the west side of the building. Engine cleaners used to remove oil & grease from grounds keeping equipment were rinsed off with a hose & the rinsewater containing the oil & grease & residual solvents were washed into the floor drain & to the oil separator, which was connected to the drywell. In 11/87 the drywell was excavated & pumped out, the oil separator discharge pipe plugged & the excavation backfilled with gravel. Analysis of drywell samples taken at the time of the drywell excavation revealed levels of TCA, acetone, TCE, & carbon tetrachloride. The septic tank was operated as a holding tank for B259 sanitary wastes with no discharge to the leachfield. The sink in the maintenance area was connected to the tank. In 11/87 levels of methylene chloride, TCA, & DCE were found in the septic tank. The contents of the septic tank were pumped out & properly disposed of. The septic tank was removed & replaced in January 1988, & the maintenance area sink was removed. IBM installed monitoring wells on site & have been conducting periodic sampling. Higher levels of groundwater contamination were detected in wells located closest to the drywell & septic tank areas. Analyses of groundwater samples over time indicates the low level of solvents in the groundwater is decreasing. Sampling conducted in the summer of 1990 revealed contaminant levels have decreased to below drinking water standards. Remedial actions & monitoring are considered complete and no further action is required.

HAZARDOUS WASTE DISPOSED: Confirmed-X
TYPE

SUSPECTED _____
QUANTITY (units)

1,1,1-trichloroethane (F001)
Trichloroethylene (F001)
Acetone (F003)

Unknown

SITE CODE: 314079

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater-X Soil- Sediment-

CONTRAVENTION OF STANDARDS:

Groundwater-X Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE...:

State-

Federal-

STATUS:

Negotiation in Progress-

Order Signed-

REMEDIAL ACTION:

Proposed-

Under design-

In Progress-

Completed-X

NATURE OF ACTION: Removal and monitoring

GEOTECHNICAL INFORMATION:

SOIL TYPE:

GROUNDWATER DEPTH:

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

ASSESSMENT OF HEALTH PROBLEMS:

Linda -

22 Jan 91

I agree that the specific items asked for in John Olm's first two comments would be nice to have. He is also correct that IBM has not provided us with analytical data proving that the excavation of contaminated soils went far enough. They most likely took no confirmatory soil samples after excavation but rather relied on visual observation (and possibly hand-held meters). If possible, we should get them to give us as much info. as possible about how they decided when to stop excavating. I would go along with one more attempt to get this additional information.

Even if we are unable to get any more information from IBM I still think we can conclude that the clean-up was sufficient based on the groundwater monitoring they did. We should not delist the site but should reclassify it to Class 5.

Keith will
~~send comments~~
shortly.

2/12

Can't verify - so
agree to Class 5

John Swartwout

for petition file

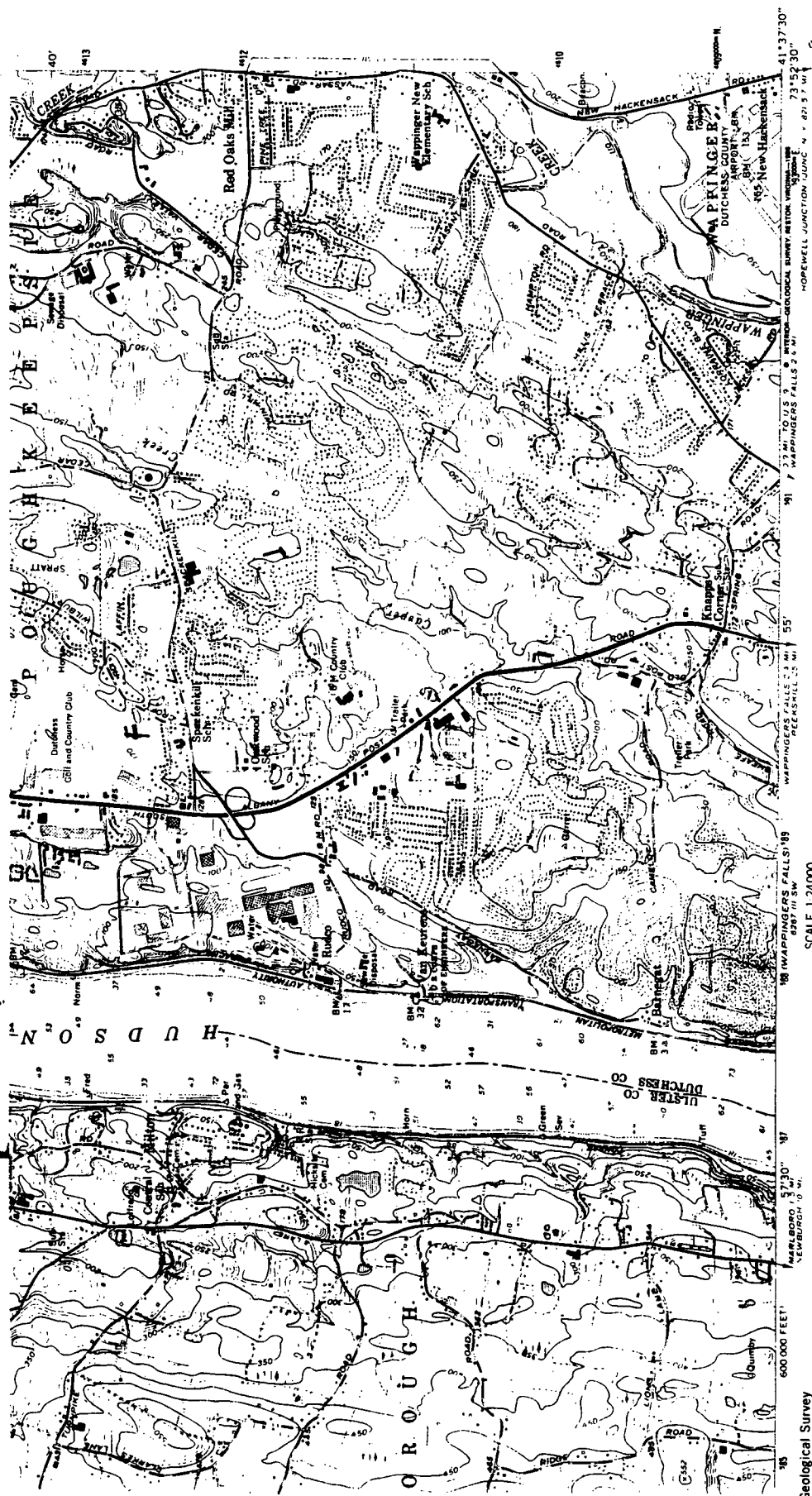
IBM IC 314079

LJB

REFERENCE 7

**"This reference contained uncollated material from the
EPA file that was used as general background information"**

REFERENCE 8



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U.S. Route	State Route

SCALE 1:24,000

0 1000 2000 3000 4000 5000 6000 7000 FEET

0 1 2 3 4 5 KILOMETER

CONTOUR INTERVAL 10 FEET

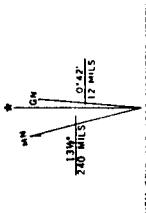
NATIONAL GEODETIC VERTICAL DATUM OF 1929

DEPTH CURVES AND SOUNDINGS IN FEET-DATUM IS MEAN LOW WATER

THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE

SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER

THE MEAN RANGE OF TIDE IS APPROXIMATELY 3.1 FEET



POUGHKEEPSIE, N. Y.

41073-F8-TF-024

1957
PHOTOREVISED 1982
DMA 6267 III NW-SERIES 1982

Revisions shown in purple and woodland compiled from aerial photographs taken 1980 and other sources. This information not field checked. Map edited 1982. Purple tint indicates extension of urban areas.

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225
OR RESTON, VIRGINIA 22092

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

REFERENCE 9



South Carolina Department of Health and Environmental Control

P.O. 200839

Reference 9
Bureau p.1 of 6
26001
Phone: (803) 734-5200
Emergency & Holidays: (803) 734-5424

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-8

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's U.S. EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law, but is by State law.	
3. Generator's Name and Mailing Address IBM Corporation, P.O. Box 950, South Rd., Poughkeepsie, N.Y. 12602 D/421 B/028		N.Y.D.0.8.0.4.8.0.7.3.4.8.8.0.5.1.1		A. State Manifest Document Number 88051		
4. Generator's Phone (914) 433-7747/7748		6. U.S. EPA ID Number MD.D.9.8.0.5.5.4.6.5.1.3		B. State Generator's ID		
5. Transporter 1 Company Name GSX Services		8. U.S. EPA ID Number		C. State Transporter's ID 011269S		
7. Transporter 2 Company Name		10. U.S. EPA ID Number		D. Transporter's Phone (803) 576-1085		
9. Designated Facility Name and Site Address GSX Services of South Carolina, Inc. Route 1 Box 255, Pinewood, South Carolina 29125		11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)		E. State Transporter's ID		
		12. Containers No. Type		F. Transporter's Phone		
		13. Total Quantity		G. State Facility's ID		
		14. Unit W/Vd		H. Facility's Phone		
		15. Waste Number				
a. Hazardous Waste, Solid, N.O.S. ORM-E NA9189 (RQ) (Lead) (D008)		0.1.1.5 DIF		0.1.1.2.5.1.9 P		
b. Hazardous Waste, Solid, N.O.S. ORM-E NA9189 (RQ) (Chromium) (F006)		0.1.0.8 C.F.		0.1.9.1.2.1.1 P		
c. Hazardous Waste, Solid, N.O.S. ORM-E NA9189 (RQ) (Lead) (D008)		0.1.0.9 DIM		0.1.4.3.1.6.1.8 P		
d. Hazardous Waste, Solid, N.O.S. ORM-E NA9189 (RQ) (1,1,1-Trichloroethane) (F001)		0.1.1.3 DIM		0.1.6.1.1.9.1.4 P		
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above				
a. [P,W]-[0,0,2,3,1]-[3,1,0,5]		c. [P,W]-[0,0,2,3,1]-[4,1,1,7]				
b. [P,W]-[0,0,2,3,1]-[4,1,1,0]		d. [P,W]-[0,0,2,3,1]-[4,1,1,2,0]				
15. Special Handling Instructions and Additional Information P.O. 200839 x *Line C-may also contain- D011,D006,D009,D005,D010 IBM Emergency Response (914) 433-3333						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name Rosanne N. Sordi		Signature <i>Rosanne N. Sordi</i>		Month Day Year 10.7.1.3.18.8		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jack Peeler		Signature <i>Jack Peeler</i>		Month Day Year 10.7.1.3.18.8		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space J-A 231-4119 11-B REJECTED		a. 1289 lbs. c. 44.59 lbs. b. 1111 lbs. d. 163.0 lbs.				
20. Facility Owner or Operator, Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.						
Printed/Typed Name BRENDA RIGDON		Signature <i>Brenda Rigdon</i>		Month Day Year 10.7.1.3.18.8		



CODE: L-9432
P.O.#: 771983

State of New Jersey
Department of Environmental Protection
Division of Waste Management
CN 028, Trenton, NJ 08625

Reference 9
p. 2 of 6

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. N Y D 9 8 0 7 6 2 0 9 9 8 8 0 0 2		Manifest Document No. 0 0 2		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address IBM COUNTRY CLUB, P.O. BOX 950, ROUTE 9, POUGHKEEPSIE, N.Y. 12602						A. State Manifest Document Number NJA 0353894							
4. Generator's Phone (914) 433-7752/7748						B. State Generator's ID SAME							
5. Transporter 1 Company Name INLAND POLLUTION CONTROL						C. State Transporter's ID NJDEP-7319 (21)							
6. US EPA ID Number M A D 9 8 2 1 9 1 3 1 4						D. Transporter's Phone (617)843-7111							
7. Transporter 2 Company Name						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Phone							
9. Designated Facility Name and Site Address ROLLINS ENVIRONMENTAL, ROUTE 322, WEST BRIDGEPORT, N.J. 08014						G. State Facility's ID 3							
10. US EPA ID Number N J D 0 5 3 2 8 8 2 3 9						H. Facility's Phone (609) 467-3100							
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. HAZARDOUS WASTE, LIQUID, N.O.S., ORN-E, NA9169 (FQ)						No. Type							
b. (F001)						0 0 2 T T 3 1 7 2 0 P						F001	
c.													
d.													
J. Additional Descriptions for Materials Listed Above 18; 1,1,1-TRICHLOROETHANE, (L); (T)						K. Handling Codes for Wastes Listed Above T03							
15. Special Handling Instructions and Additional Information IBM EMERG.#: (914)433-3333 APPROX. VOL.: 3000 GAL. PLACARD: "9189" IPC # 8629 SEALS: 008176;008177 SEALS: 011583;011584 LICENSE#: (MA)8946 IN. OUT: 28 IN. REAR COMPART. IN. OUT: 18 IN. FRONT COMPART.													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name JOSEPH A. WITKOWSKI						Signature <i>Joseph A. Witkowski</i>						Month Day Year 10 11 13 8 8	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name DAVID J. LUSTIGER 215						Signature <i>David J. Lustiger</i>						Month Day Year 10 11 13 8 8	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name						Signature						Month Day Year	
19. Discrepancy Indication Space													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name													
Signature						Month Day Year							



ROLLINS ENVIRONMENTAL SERVICES (NJ) INC.

RT 322 & I-295
BRIDGEPORT
609-467-3100

NJ 08014

Jan 21 11:20 AM '88

INVOICE
NO 732190
CUST NO 00050
DATE 01/15/88
PAGE 1INVOICE
TOIBM CORPORATION
PO BOX 1400POUGHKEEPSIE NY 12602
ATT: ACCOUNTS PAYABLERECEIVED
FROMReference 9
p. 3 of 6

CUSTOMER REFERENCE

STREAM NO. & DESCRIPTION

CARRIER REFERENCE

771983

L 09432

CD

SANITARY SEWER SLUDGE

ITEM NO.	B/L NO. B/L DATE MFST NO.	PRICE CODE	DESCRIPTION	QUANTITY	UM	UNIT PRICE	AMOUNT
1	85637 1/14/88 NJA0353894	1101 1135 3204 9001 9999	INCIN WASTE LIQUID BTU OUT OF SPEC TRAILER RINSING N.J. HAZ WASTE SCHG TOTAL	31720.00 31720.00 1.00 1.00 	LBS LBS EA 	.1250 .0000 300.0000 .0500 	3.965.00 .00 300.00 198.25 4.463.25
BTU MIN 2000 % ACTUAL 2000 % PENALTY .0120 FOR EACH 1000 BTU OUT OF SPEC							

TERMS: NET 30

A SERVICE CHARGE OF 1.50% PER MONTH WILL BE CHARGED ON FAST DUE AMOUNTS.

INQUIRIES: PLEASE PHONE DOTTIE HARRISON

AT 609-467-3100 WITH ANY QUESTIONS

REMIT TO: P.O. BOX 96147

CHICAGO

IL 60693

RES 270 3/83

CUSTOMER ORIGINAL

POK11/168



South Carolina Department of Health and Environmental Control

Reference 9
Bureau of p. 4 of 6 Mgt.
2600 Bull
Phone: (803) 734-5424
Emergency & Holidays: (803) 734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.

N Y D 0 8 0 4 8 0 7 3 4 8 8 0 1 2

Manifest
Document No.

2. Page 1
of 1

Information in the shaded areas is
required by Federal law, but is by State law

3. Generator's Name and Mailing Address

IBM CORPORATION, P.O. BOX 950, SOUTH RD.,
D/421 B/028, POUGHKEEPSIE, N.Y. 12602

4. Generator's Phone (914) 433-7752/7748

5. Transporter 1 Company Name

INLAND POLLUTION CONTROL

6. U.S. EPA ID Number

M A D 9 8 2 1 9 1 3 1 4

7. Transporter 2 Company Name

8. U.S. EPA ID Number

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

9. Designated Facility Name and Site Address

GSX SERVICES OF SOUTH CAROLINA, INC., ROUTE 1, BOX 255,
PINEWOOD, SOUTH CAROLINA 29125

10. U.S. EPA ID Number

S C D 0 7 0 3 7 5 9 8 5

A. State Manifest Document Number
88012

B. State Generator's ID

C. State Transporter's ID

D. Transporter's Phone (617) 843-7111

E. State Transporter's ID

F. Transporter's Phone

G. State Facility's ID

H. Facility's Phone

(803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)

a. HAZARDOUS WASTE, SOLID, N.O.S.,
ORM-E, NA9189

(RQ) (1,1,1-TRI- (F001)
CHLOROETHANE)

12. Containers
No. Type

Q Q 1 DT

13. Total Quantity

3
5,7,0,0

14. Unit
W/Vol

P

15. Waste Number

F 0 0 1
F 0 0 5

J. Additional Descriptions for Materials Listed Above

a. BW - 0 0 2 3 1 - 4 1 2 0

b. - - - - -

c. - - - - -

d. - - - - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

W.O.#: 78847

P.O.#: 200802

IBM EMERG.#: (914) 433-3333

LICENSE#: (MA) 8941

PLACARD: (9189)

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

JOSEPH A. WITKOWSKI

Signature

Joseph A. Witkowski

Month Day Year

0 3 0 2 8 8

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

William P. McNeil 257

Signature

William P. McNeil

Month Day Year

0 3 1 0 2 8 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

19. Discrepancy Indication Space

a. b. c. d.
b. d.

20. Facility Owner or Operator, Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month Day Year

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

No 67762
NO DEMURRAGE TICKET

WORK ORDER NUMBER

MANIFEST NUMBER

CUSTOMER NAME

PLANT LOCATION

() FLATBED

DRUMS

() TANKER

est.

GALLONS

(✓) DUMPTRUCK

est.

CU. YARD

() ENCLOSED VAN

DRUMS

NET WEIGHT: 78780 LB

GROSS 44948 LB

TARE

NET 33840

DATE

TIME IN:

TIME OUT:

S. C. LICENSED WEIGHMASTER

BY:

HAULER: IPC (4)

DRIVER: Bill Mack

1. Hard - File Daily in Order - 2. Lab Arrival - 3. Customer - 4. Accounting - 5. Weight File by State

J. Additional Descriptions for Materials Listed Above

a. BW-10,0,2,3,1-14,1,2,0

b. - - - - -

c. - - - - -

d. - - - - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

W.O.#: 78847

P.O.#: 200802

IBM EMERG.#: (914) 433-3333

LICENSE#: (MA) 8942

PLACARD: (9189)

16. GENERATOR'S CERTIFICATION:

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

JOSEPH A. WITKOWSKI

Signature

Joseph A. Witkowski

Month Day Year

10, 3, 0, 2, 8, 8

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

William P. McNeil 257

Signature

William P. McNeil

Month Day Year

10, 3, 0, 2, 8, 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

a. 33840 lbs. c. - - - - -
b. - - - - - lbs. d. - - - - -

20. Facility Owner or Operator, Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Hope Barwick

Signature

Hope Barwick

Month Day Year

10, 3, 0, 2, 8, 8

GSX Services of South Carolina, Inc.
Route 1, Box 255
Pinewood, South Carolina 29125
(803) 452-5003
FEDERAL ID NUMBER: 04-2688214

DATE	INVOICE NUMBER
03/14/88	51864

IBM PO BOX 950 POUGHKEEPSIE, NY 12602	IBM SOUTH RD NUTCHESS COUNTY POUGHKEEPSIE, NY 12602
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SALESMAN TSAROUHAS	TERMS NET 10 DAYS	DATE RECEIVED 03/07/88	P.O. NUMBER 0200802	TRANSPORTED BY INLAND POLL
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MANIFEST NUMBER	WORK ORDER	QUANTITY RECEIVED	DESCRIPTION	WASTE CODE	UNIT PRICE	TOTAL
88012	078847	33,840	MATERIAL DISPOSAL POUND(S)	00231-4120	0.0500	1,692.00
			SUBTOTAL FOR DISPOSAL:			1,692.00
		1	OTHER CHARGES SEE MEMO AT BOTTOM		152.2800	152.28
			SUBTOTAL FOR OTHER CHARGES:			152.28
			SUBTOTAL FOR INVOICE:			1,844.28
			S.C. HAZARDOUS WASTE TAX:			
		33,840	HAZARDOUS SOLID POUNDS:			

CORRECTED P.O.
264500.495
DEPT. 371
INVOICE RECD. TO VENDOR
824

OK To Pay
Sales Tax
NM 4-7-88

NOTE: 16.92 SH/NY HAZ WASTE TAX

PLEASE REMIT TO: GSX Services of South Carolina, Inc.
Drawer CS 100158
Atlanta, Georgia 30384-0158

INVOICE TOTAL 2,148.84

0200802 51864 2094428 P06
FS2394 2,148.84 88/04/01 E P 8 DMER COPY